

NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS SECONDARY  
ANALYSIS GRANTS

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REQUEST FOR APPLICATIONS: NCES-04-01

Institute of Education Sciences

<http://www.ed.gov/programs/edresearch/applicant.html>

APPLICATION RECEIPT DATE: May 13, 2004

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1. REQUEST FOR APPLICATIONS

The Institute of Education Sciences (Institute) invites applications to conduct secondary analyses of the nationally representative achievement data collected by the National Assessment of Educational Progress [NAEP] and the NAEP High School Transcript Studies [HSTS]. For this competition, the Institute will consider only applications that meet the requirements outlined below under the section on Requirements of the Proposed Projects.

## 2. PURPOSE OF THE SECONDARY ANALYSIS GRANT PROGRAM

The Institute intends the secondary analysis program to encourage the preparation of reports that would not otherwise be available utilizing new ideas or state-of-the-art techniques to analyze and report the information contained in NAEP and the NAEP High School Transcript Studies. Analyses and reports prepared under this program should potentially be useful to the general public, parents, educators, educational researchers, or policy makers. The Institute intends the secondary analysis program to fulfill three goals: (1) to support projects that use NAEP assessment data alone or in combination with other data sets to produce reports designed to assist policy makers and educators in the educational improvement process; (2) to support projects designed to assist NAEP users in the analysis, interpretation and reporting of state- and district-level NAEP results; and (3) to support projects that include the development of methodological or analytic procedures which improve precision in the estimation and reporting of NAEP results.

## 3. BACKGROUND

Mandated by Congress, the National Assessment of Educational Progress (NAEP) surveys the educational achievement of students in the United States, and monitors their progress over time. Widely known as the “Nation’s Report Card,” NAEP has been collecting data to provide educators and policymakers valid and meaningful information for more than 30 years.

The NAEP program includes two distinct components: “main NAEP” and “long-term trend NAEP.” These two components use distinct data collection procedures, separate samples of students defined by different criteria, and different test instruments based on different frameworks. Main NAEP includes assessment instruments based on frameworks typically developed within the past 10 years. Results from the main NAEP assessments are reported at the national and, in some subjects, at the state level. In 2002 and 2003, exploratory assessments were conducted to determine the feasibility of reporting assessment results at the district level as well. The subject areas assessed as part of the main assessments include reading, mathematics, science, writing, U.S. history, geography, civics, and the arts. State-level results, however, are reported only in reading, mathematics, science, and writing. Background data collected through questionnaires administered to sampled students, the teachers of those students, and administrators of the schools those students attend are also available for main NAEP assessments. The long-term trend assessments are conducted at the national level only, and are administered less frequently than the main assessments. Long-term trend assessments are conducted in only reading and mathematics. Background data for schools and students are also available for the long-term trend assessment.

In addition to these assessment programs, NAEP periodically conducts the High School Transcript Study (HSTS) to investigate the current course offerings and course-taking patterns in the nation’s secondary schools. Thousands of transcripts of high school seniors who graduate from public and nonpublic high schools are collected from a nationally representative sample of schools. Transcript study data are linked to the NAEP assessment results providing information on the relationship between course-taking patterns and achievement.

NAEP produces a number of different publications each time assessment results are released. These reports provide summary data to the general public, and focus on the overall national and state results, as well as subgroups of the population. In addition, NAEP has an extensive web site (<http://nces.ed.gov/nationsreportcard>) that provides easy access to all NAEP publications. The web site also houses a number of tools that make the NAEP data and released assessment questions accessible to the general public.

The data collected by NAEP represents one of the richest and most in-depth databases of information about student achievement. As part of its mission to the education community, NAEP encourages researchers and policy makers to make use of the data and to perform their own analyses and studies on education achievement. Beyond the summary data available on the NAEP website and in NAEP reports, complete access to all detailed data is available to data analysts who apply for and are granted restricted use licenses.

Despite the depth of the information and the availability of the databases, the Institute believes that the NAEP database remains underutilized. Through this program of secondary analysis grants, the Institute hopes to encourage greater use of the NAEP data to inform educational research, policy, and practice. Much potentially valuable information that could be gained from the NAEP data remains untapped. This grant program was developed to make resources available to qualified data analysts to explore the NAEP data more fully.

By broadening the user base, the Institute believes that not only will the data be more widely disseminated, but fresh perspectives and new ideas will be applied to analysis of NAEP data. It is important that analysts outside of the Institute examine and explore the questions that can be addressed by the NAEP data. While the federal government assumes responsibility for collecting these data and making them available to the public, there are opportunities for more analysis of and reporting on the NAEP data than can or should be done by the federal government. By encouraging such broad use of this rich database, the Institute expects that education policy and practice can be informed and enhanced.

It is also expected that by inviting data analysts to work more closely with the NAEP assessment and its data, the program will benefit from additional perspectives on the strengths and weakness of the current methodology underlying NAEP. The Institute welcomes applications for studies that will explore new methodological techniques and new software or analysis models that may help make the NAEP data accessible to a broader range of users.

#### 4. REQUIREMENTS OF THE PROPOSED RESEARCH

For the 2004 NAEP Secondary Analysis competition, applicants may propose analyses using any currently available NAEP or HSTS data set. Applications must be submitted under Goal One, Goal Two, or Goal Three of the program. Applicants should indicate the *primary* goal under which they are applying in their project abstract. Goal One

encompasses projects that use the NAEP data to study issues related to educational improvement. Goal Two encompasses projects that develop tools and methodologies that assist users of the NAEP data. Goal Three encompasses projects that develop improvements to the estimation, analysis and reporting of the NAEP data.

Please note that the Institute intends projects under the NAEP Secondary Analysis program to address questions using existing data from NAEP and NAEP High School Transcript Studies. Applicants who are interested in conducting research projects which generate new data on educational processes and attainment should review the other research grant programs supported by the Institute (<http://www.ed.gov/programs/edresearch/applicant.html>) as well as research programs in the National Science Foundation's Directorate for Social, Behavioral, and Economic Sciences (<http://nsf.gov/home/sbe/>) and Directorate for Education and Human Resources (<http://nsf.gov/home/ehr/>), and the National Institute of Child Health and Human Development's Program in Development and Disorders (<http://www.nichd.nih.gov/crmc/cdb.htm>).

*Applications under Goal One (Educational Improvement).* Applications under Goal One will use the NAEP achievement and the background data [and may use the HSTS data] to explore hypotheses regarding how the educational improvement process is progressing in the United States. An example project funded under Goal One used data from the recent Trial Urban District assessment and compared the achievement of center city students to other students taking NAEP, controlling for race, ethnicity, and family circumstances. This study combined the data with data from the 2000 census, the Common Core of Data and databases maintained by the Council of Great City Schools in order to estimate the relationship between additional variables of interest and the NAEP proficiency scores.

Applicants should note that the Institute adheres to the perspective that analyses based on cross-sectional data do not support causal inferences. Therefore, to be funded under this program, applicants must ensure that the questions their projects propose can be rigorously and scientifically answered by secondary analysis of the existing NAEP cross-sectional, trend, or high school transcript data.

Typical awards for projects under this goal will be \$65,000 to \$100,000 (total cost) for a period not to exceed 18 months. Applications for smaller awards and shorter durations are also welcome.

*Applications under Goal Two (Assistance to NAEP Users).* The state-of-the-art psychometric and sampling designs used in NAEP are a challenge for most educational and state institutional researchers to analyze. Applicants under Goal Two will be proposing projects which will assist other users of the NAEP data to analyze, interpret and report NAEP data more easily and accurately. An example project funded under Goal Two adapted an existing system for creating student skill profiles to the NAEP. Student skill profiles would allow NAEP results to be reported in terms of mastery and non-mastery of the skills represented in the NAEP achievement levels. Profile scores were also explored as a vehicle for evaluating the similarities and differences between

NAEP and state accountability tests. Applicants under Goal Two will frequently have a project of particular interest to their state education agency or professional organization and, in addition, will generalize what their work produces to make it useful to other NAEP users. Projects that include the development of new software that permits advanced analytic techniques to be readily applied to the NAEP data are encouraged under this goal.

Typical awards for projects under this goal will be \$65,000 to \$100,000 (total cost) for a period not to exceed 18 months. Applications for smaller awards and shorter durations are also welcome.

*Applications under Goal Three (Development of Methodological and Analytic Procedures).* Applications under Goal Three will be technical in nature. They may be robustness studies or validity studies. Some of them will propose and test alternatives to some component of the NAEP sampling or psychometric model, and others will propose and test analytic solutions to problems that were previously intractable in the context of NAEP. An example project funded under Goal Three compared and contrasted different approaches to estimating statistical bias in analyses of the NAEP data and applied instrumental variables models commonly used in econometrics to the estimation of bias in NAEP analyses for the first time.

Some technical projects may be proposed under Goal Three that actually produce results that assist NAEP users [Goal Two]. Conversely, some projects proposed under Goal Two may actually belong under Goal Three. While applicants are encouraged to focus their projects within a single program goal, the Institute anticipates that some fluidity will occur between Goals Two and Three and applicants will not be penalized when this occurs.

Typical awards for projects at this level will be \$65,000 to \$100,000 (total cost) for a period not to exceed 18 months. Applications for smaller awards and shorter durations are also welcome.

*Methodological Requirements:* All applications to this program must include in their research narrative a detailed explanation of how the proposed analyses will account for both the sampling and the psychometric designs of the NAEP data.

All the NAEP data are collected using a multi-stage, clustered sampling design. The sampling designs for the national data and most of the older assessment data sets also use stratification and over-sampling within strata. This sampling design has major implications for secondary analysis of the NAEP data.

Similarly, the NAEP psychometric design produces proficiency estimates that are not actual individual scores for the students who participate in the assessments. These multiply-imputed estimates of student proficiency are called “plausible values,” and five such values constitute the “score” for each examinee. Secondary analysts may use these plausible values as their unit of analysis or they may use marginal maximum likelihood

techniques to estimate the statistics of interest to their study directly. The psychometric design of NAEP also has implications for secondary analysis.

An accurate and defensible explanation of how the proposed project will account for both the sampling and psychometric design of NAEP is a critical component of every application to this program.

#### 5. APPLICATIONS AVAILABLE

Application forms and instructions for the electronic submission of applications will be available for this program no later than March 11, 2004, from the following web site:

<http://ies.constellagroup.com>

#### 6. MECHANISM OF SUPPORT

The Institute intends to award grants for periods up to 18 months pursuant to this request for applications. Please see specific details for each goal in the Requirements of the Proposed Research section of the announcement.

#### 7. FUNDING AVAILABLE

The size of the award depends on the scope of the project. Please see specific details in the Requirements of the Proposed Research section of the announcement. Although the plans of the Institute include this program of secondary analysis, awards pursuant to this request for applications are contingent upon the availability of funds and the receipt of a sufficient number of meritorious applications. The number of projects funded under a specific goal depends upon the number of high quality applications submitted to that goal. The Institute does not have plans to award a specific number of grants under each particular goal.

#### 8. ELIGIBLE APPLICANTS

Since only organizations may be licensed to receive the restricted use NAEP data, only organizations may apply for grants under this program. Any organization or consortium of organizations that has the knowledge and capacity to conduct secondary analysis of the NAEP data is eligible to apply. Eligible applicants include, but are not limited to, non-profit and for-profit organizations and public and private agencies and institutions, such as colleges and universities.

#### 9. SPECIAL REQUIREMENTS

Research supported through this program must be relevant to U.S. schools. Recipients of awards are expected to publish or otherwise make publicly available the results of the work supported through this program.

Applicants should budget for one meeting each year in Washington, DC, with other grantees and Institute staff. At least one project representative should attend the two-day meeting.

## 10 SUBMITTING AN APPLICATION

Applications must be submitted **electronically by 8:00 p.m. Eastern time** on the application receipt date, using the ED standard forms and the instructions provided at the following web site:

<http://ies.constellagroup.com>

Application forms and instructions for the electronic submission of applications will be available for this program of research no later than **March 11, 2004**. Potential applicants should check this site for information about the electronic submission procedures that must be followed and the software that will be required.

The application form approved for this program is OMB Number 1890-0009.

## 11. CONTENTS AND PAGE LIMITS OF APPLICATION

All applications and proposals for Institute funding must be self-contained within specified page limitations. Internet Web site addresses (URLs) may not be used to provide information necessary to the review because reviewers are under no obligation to view the Internet sites.

Sections described below, and summarized in Table 1, represent the body of a proposal submitted to the Institute and should be organized in the order listed below. Sections a (ED 424) through h (Appendix A) are required parts of the proposal. Section i (Appendix B) is optional. All sections must be submitted electronically.

Observe the page number limitations given in Table 1.

**Table 1**

<b>Section</b>	<b>Page Limit</b>	<b>Additional Information</b>
a. Application for Federal Education Assistance (ED 424)	n/a	
b. Budget Information Non-Construction Programs (ED 524)	n/a	
c. Project Abstract	1	
d. Research Narrative	25	Figures, charts, tables, and diagrams may be included in Appendix A
e. Reference List	no limit	Complete citations, including titles and all authors
f. Curriculum Vita of Key Personnel	3	No more than 3 pages for each key person
g. Budget Narrative	no limit	
h. Appendix A	15	
i. Appendix B	10	

- a. *Application for Federal Education Assistance (ED 424)*. The form and instructions are available on the website.
- b. *Budget Information Non-Construction Programs (ED 524)*. Applicants must provide budget information using the ED 524 form (a link to the form is provided on the application website at <http://ies.constellagroup.com>). ED 524 form has three sections: A, B, and C.

Instructions for Sections A and B are included on the form. Instructions for Section C are as follows. Section C must provide an itemized budget breakdown for each project year, for each budget category listed in Sections A and B. Section C may be submitted as an Excel spreadsheet with an itemized listing of project costs accompanying the budget narrative uploaded as part of the PDF file. For personnel, include a listing of percent effort for each project year, as well as the cost. Section C should also include a breakdown of the fees to consultants, a listing of each piece of equipment, itemization of supplies into separate categories, and itemization of travel requests (e.g. travel for data collection, conference travel, etc.) into separate categories. Any other expenses should be itemized by category and unit cost.

- c. *Project abstract*. The abstract is limited to one page and must include: (1) The title of the project; (2) the RFA goal under which the applicant is applying; and brief descriptions of (3) the potential contribution the proposed project will make; (4) the data to be analyzed in the project; (5) the proposed research method(s); and (6) the new tools or methodologies to be developed if any have been proposed.
- d. *Research narrative*. Incorporating the requirements outlined under the section on Requirements of the Proposed Research, the *research narrative* provides the majority of the information on which reviewers will evaluate the proposal and should include the following sections (1 through 4) in the order listed:

- (1) Contribution of Project (suggested: 1-2 pages)  
Identify the problem that will be addressed by the secondary analysis project and describe the contribution the project will make to a solution to that problem.
- (2) Research Plan (suggested: 14-22 pages)
  - i. Provide a compelling rationale addressing, where applicable, the theoretical foundation, relevant prior empirical evidence supporting the proposed project, and the practical importance of the proposed project;
  - ii. Include clear, concise hypotheses or research questions;
  - iii. Present a clear description of, and a rationale for, the assessment or transcript study data selected; and



- iv. Present a detailed data analysis plan that justifies and explains the selected analysis strategy, shows clearly how the analyses relate to the hypotheses or research questions, and indicates how the results will be interpreted. Quantitative studies must account for the sampling and psychometric constraints of the NAEP data.
- (3) Personnel (suggested: 1-2 pages)  
Include brief descriptions of the qualifications of key personnel (information on personnel should also be provided in their curriculum vitae).
- (4) Resources (suggested: 1-2 pages)  
Provide a description of the resources available to support the project at the applicant's institution.

The research narrative is limited to the equivalent of 25 pages, where a "page" is 8.5 in. x 11 in., on one side only, with 1 inch margins at the top, bottom, and both sides. Single space all text in the research narrative. To ensure that the text is easy for reviewers to read and that all applicants have the same amount of available space in which to describe their projects, applicants must adhere to the type size and format specifications for the entire research narrative including footnotes.

Conform to the following four requirements:

- (1) The height of the letters must not be smaller than 12 point;
- (2) Type density, including characters and spaces, must be no more than 15 characters per inch (cpi). For proportional spacing, the average for any representative section of text must not exceed 15 cpi;
- (3) No more than 6 lines of type within a vertical inch;
- (4) Margins, in all directions, must be at least 1 inch.

Applicants should check the type size using a standard device for measuring type size, rather than relying on the font selected for a particular word processing/printer combination. Figures, charts, tables, and figure legends may be smaller in size but must be readily legible. The type size used must conform to all four requirements. Small type size makes it difficult for reviewers to read the application. Adherence to type size and line spacing requirements is also necessary so that no applicant will have an unfair advantage, by using small type, or providing more text in their applications. **Note, these requirements apply to the PDF file as submitted.** As a practical matter, applicants who use a 12 point Times New Roman without compressing, kerning, condensing or other alterations typically meet these requirements.

Use only black and white in graphs, diagrams, tables, and charts. The application must contain only material that reproduces well when photocopied in black and white.

The 25-page limit does *not* apply to the ED 424 form, the one-page abstract, the ED 524 form and narrative budget justification, the curriculum vitae, or reference list. Reviewers are able to conduct the highest quality review when applications are concise and easy to read, with pages numbered consecutively.

- e. *Reference list.* Please include complete citations, including titles and all authors, for literature cited in the research narrative.
- f. *Brief curriculum vita of key personnel.* Abbreviated curriculum vita should be provided for the principal investigator(s) and other key personnel. Each vitae is limited to 3 pages and should include information sufficient to demonstrate that personnel possess training and expertise commensurate with their duties. Previous experience with the NAEP data should be emphasized. The curriculum vita must adhere to the margin, format, and font size requirements described in the research narrative section.
- g. *Budget narrative justification.* The *budget narrative justification* must provide sufficient detail to allow reviewers to judge whether reasonable costs have been attributed to the project. It must include the time commitments and brief descriptions of the responsibilities of key personnel. *The budget justification should correspond to the itemized breakdown of project costs that is provided in Section C.* For consultants, the narrative should include the number of days of anticipated consultation, the expected rate of compensation, travel, per diem, and other related costs. A justification for equipment purchase, supplies, travel and other related project costs should also be provided in the budget narrative for each project year outlined in Section C. For applications that include contracts for work conducted at collaborating institutions, applicants should submit an itemized budget spreadsheet for each contract for each project year, and the details of the contract costs should be included in the budget narrative.
- h. *Appendix A.* In *Appendix A*, the applicant may include any figures, charts, or tables that supplement the research text, and letters of agreement from all partners (e.g., schools) and consultants. Letters of agreement should include enough information to make it clear that the author of the letter understands the nature of the commitment of time, space, and resources to the research project that will be required if the application is funded. The appendix is limited to 15 pages.
- i. *Appendix B (optional).* For proposals in which new software or alternative estimation models are proposed, applicants may include in *Appendix B* up to 10 pages of example code, derivations or other relevant technical material needed for clarification.

Please note that applicants selected for funding will be required to submit the following certifications and assurances before a grant is issued:

- (1) SF 424B-Assurances-Non-Construction Programs
- (2) ED-80-0013-Certification Regarding Lobbying, Debarment, Suspension and other Responsibility Matters; and Drug-Free Workplace Requirements
- (3) ED 80-0014 (if applicable)-Lower Tier Certification
- (4) SF-LLL (if applicable) - Disclosure of Lobbying Activities

## 12. APPLICATION PROCESSING

Applications must be received by **8:00 p.m. Eastern time** on the application receipt date listed in the heading of this request for applications. Upon receipt, each application will be reviewed for completeness and for responsiveness to this request for applications. Applications that do not address specific requirements of this request will be returned to the applicants without further consideration.

## 13. PEER REVIEW PROCESS

Applications that are complete and responsive to this request will be evaluated for scientific and technical merit. Reviews will be conducted in accordance with the review criteria stated below by a panel of scientists who have substantive and methodological expertise appropriate to the program of research and request for applications.

Each application will be assigned to at least two primary reviewers who will complete written evaluations of the application, identifying strengths and weaknesses related to each of the review criteria. Primary reviewers will independently assign a score for each criterion, as well as an overall score, for each application they review. Based on the overall scores assigned by primary reviewers, an average overall score for each application will be calculated and a preliminary rank order of applications prepared before the full peer review panel convenes to complete the review of applications.

The full panel will consider only those applications deemed to have the highest merit, as reflected by the preliminary rank order, generally the top 15, and the most competitive proposals will be discussed and scored.

## 14. REVIEW CRITERIA FOR SCIENTIFIC MERIT

The goal of Institute-supported secondary analysis of the NAEP data is to investigate what this nationally representative database can tell us about education problems and about the education practices in America's schools that support learning and may contribute to academic achievement and access to education for all students. Reviewers will be expected to assess the following aspects of an application in order to judge the likelihood that the proposed secondary analysis project will have a substantial impact on the pursuit of whichever program goal the project addresses. Information pertinent to each of these criteria is also described above in the section on Requirements of the Proposed Research and in the description of the research narrative, which appears in the section on Contents and Page Limits of Application.

Significance	Does the applicant make a compelling case for the potential contribution of the project?
Research Plan	Does the applicant present (a) a strong rationale for the project; (b) clear hypotheses or research questions; (c) clear descriptions of and strong rationales for the assessment or transcript data selected, and the research design; and (d) a detailed and well-justified data analysis plan? Does the research plan meet the requirements described in the section on the Requirements of the Proposed Research and in the description of the research narrative in the section on Contents and Page Limits? Is the study plan appropriate for answering the proposed questions or testing the proposed hypotheses?
Personnel	Does the description of the personnel make it apparent that the principal investigator, project director, and other key personnel possess the training and experience and will commit sufficient time to competently implement the proposed research?
Resources	Does the applicant have the facilities, equipment, supplies, and other resources required to support the proposed activities? Do the commitments of each partner show support for the implementation and success of the project?

#### 17. RECEIPT AND REVIEW SCHEDULE

Application Receipt Date: May 13, 2004, 8:00 p.m. Eastern time

Earliest Anticipated Start Date: July 16, 2004

#### 18. AWARD DECISIONS

The following will be considered in making award decisions:

Scientific merit as determined by the peer review

Responsiveness to the requirements of this request

Performance and use of funds under a previous Federal award

Contribution to the overall program of research described in this request

Availability of funds

#### 19. INQUIRIES MAY BE SENT TO:

Dr. Alexandra Sedlacek

Institute of Education Sciences

National Center for Education Statistics

1990 K Street, NW

Washington, DC 20006

Email: [Alex.Sedlacek@ed.gov](mailto:Alex.Sedlacek@ed.gov)

Telephone: (202) 502-7446

20. PROGRAM AUTHORITY

20 U.S.C. 9010 et seq., section 303 of the National Assessment of Educational Progress Authorization Act. This program is not subject to the intergovernmental review requirements of Executive Order 12372.

21. APPLICABLE REGULATIONS

The Education Department General Administrative Regulations (EDGAR) in 34 CFR parts 74, 77, 80, 81, 82, 84, 85, 86 (part 86 applies only to Institutions of Higher Education), 97, 98, and 99. In addition 34 CFR part 75 is applicable, except for the provisions in 34 CFR 75.100, 75.101(b), 75.102, 75.103, 75.105, 75.109(a), 75.200, 75.201, 75.209, 75.210, 75.211, 75.217, 75.219, 75.220, and 75.230.